

IN THE SPECIFICATION

Please amend the paragraph appearing at page 8, line 16 – page 9, line 3 as follows:

Yet one or more other aspects of the present invention may further be achieved by a process for the production of a transparent article made of a blend of a major component of polyester, a minor component of at least one incompatible filler dispersed therein, and at least one light absorbent composition, comprising blending a selected amount of the filler into the polyester; forming an article into a desired size and shape, wherein domains comprising the incompatible filler are created in the polyester upon formation of the article; determining a range of dimensions in the axial plane of the article for the domains in the polyester, at least some of the dimensions falling within a range of from about 400 nm to about 700 nm; blending a selected amount of light absorbent composition into the polyester to determine that the light absorbent composition absorbs light in a region of the visible spectrum such that X is less than than 9.6 in the equation

$$X = \sum (1 - A_i) \times N_i$$

where A_i is the percent of light absorbed at a wavelength i and N_i is the number of domains per hundred square microns at wavelength i , and where i ranges from 400 nm to 700 nm; and adding that selected amount of the light absorbent composition to the polyester and the selected amount of incompatible filler and forming a different, transparent container into the same desired size and shape, thereby substantially masking any visual haze in the article.

Please amend the paragraph appearing at page 13, lines 18 - 29 as follows:

It will be appreciated that the determination of whether a light absorbent composition will absorb light for a particular article below an X threshold is relatively simple and can be determined without undue experimentation. A_i is the percent of light absorbed by the article having the colorant without the incompatible filler as at wavelength i ; L_i is the percent of light available to reflect at wavelength i , where i is 400 nm to 700 nm. These percentages can be calculated upon measuring the absorbance of the composition, it being understood that $A_i + L_i = 1$. In most instances, L_i will be 1 minus the percent absorbed, or the percent of light available for reflectance. These measurements can be obtained using the process described below. N_i is the number of domains per hundred square microns at wavelength i , where i is 400 nm to 700 nm. N_i can be measured by SEM and normalized to square microns.

Please amend the paragraph appearing at page 16, lines 15 – 34 as follows:

Upon formation of the article, a domain 28 is created in the polymer matrix 22 which essentially includes both the discrete particle 24 and void 26, or the entire minor phase 27 of the incompatible filler. Where the incompatible filler used in the present invention is moldable and stretchable like the polymer employed in the article, orientation or stretching of the article will cause the incompatible filler, like the polymer, to spread along the axial plane of the article and to narrow in the transverse plane of the article as the wall of the article becomes thinner. However, in instances where the filler is not stretchable like the polymer, a void or voids 26 may be left between the filler and the polymer. Where a polyamide and another thermoplastic polymer other than the thermoplastic polymer employed as the matrix polymer, e.g., polyester, are utilized as the filler, the void left, if any, will generally be *de minimus* since both of the thermoplastic polymers are stretchable and deformable. Thus, the domains created in the matrix polymer are essentially the volume of the minor phases themselves. Nevertheless, for purposes of this invention, it will be understood that, where non-deformable filler particles are utilized, a domain 28 includes not only the volume of the filler particle 24, but also any additional volume in the article of any void 26 between the filler particle 24 and the polymer 22. Where the article has not been stretched, the domain will match the volume of the filler particle.

Please amend the paragraph appearing at page 24, lines 4 - 16 as follows:

Where a polyamide is employed as the incompatible filler, the polyamide component of the present invention may be represented by repeating unit A-D, where A is the residue of a dicarboxylic acid including adipic acid, isophthalic acid, terephthalic acid, 1,4-cyclohexanedicarboxylic acid, resorcinol dicarboxylic acid, naphthalene-2,6-dicarboxylic acid or a mixture thereof, and D is the residue of a diamine including *m*-xylylene diamine, *p*-xylylene diamine, hexamethylene diamine, ethylene diamine, 1,4-cyclohexanedimethylamine or a mixture thereof. Preferred polyamides that can be used in this invention includes poly(*m*-xylylene adipamide) or a copolymer thereof, isophthalic or terephthalic acid-modified poly(*m*-xylylene adipamide), nylon 6, nylon 6,6 or a mixture thereof, poly(hexamethylene isophthalamide isophthalamide), poly(hexamethylene adipamide-co-isophthalamide), poly(hexamethylene adipamide-co-isophthalamide, poly(hexamethylene adipamide-co-terephthalamide) or poly(hexamethylene isophthalamide-co-terephthalamide).

Please amend the paragraph appearing at page 27, line 22 – page 28, line 11 as follows:

In order to demonstrate practice of the present invention, a number of preforms were extruded from a blend of polyester, namely polyethylene terephthalate (PET) and about 5 percent by weight polyamide, namely, poly(*m*-xylylene adipamide), commonly known as MXD-6 and available from Mitsubishi Mitsubishi Gas Chemical (Harada, M., *Plastics Engineering*, 1998). The preforms also contained 0.04 percent by weight 1,2,4,5-benzenetetracarboxylic dianhydride, or pyromellitic dianhydride (PMDA). Upon extrusion, a number of bottle preforms were produced having MXD-6 dispersed within a PET matrix. Some of the preforms were then blow molded into bottles, each bottle having essentially an identical shape and a size of 500 mL's. Upon construction of the bottles, each was cut in both the vertical transverse plane and the horizontal transverse plane and etched in cold formic acid for about 60 minutes, the samples then were washed with water till neutral pH and then with acetone. Obtained samples were metalized (gold) with Agar Auto sputter Coater under subsequent condition: 20mA for 20 seconds with argon flow. The longest dimensions of the remaining MXD-6 domains were measured using LuciaM software on the SEM photomicrographs realized at magnification of 5000x. The photomicrographs were obtained from cutting the bottle in the vertical and horizontal transverse planes and observing the longest dimension which necessarily was the dimension parallel to the surface of the article. In Fig. 7, the distribution of the results obtained from the measure of the longest dimension in the vertical transverse plane, i.e., the radial (X) direction based upon the Figures above, is reported.

Please amend the paragraph appearing at page 29, line 16 – page 30, line 4 as follows:

After viewing the spectra, it is clear that, of the choices provided thus far, red appears to be the best candidate for covering haze, with the best choice being Renol Red 4 available from ColorMatrix Corp. Transparent red samples containing the red colorant were prepared and wrapped around a known bottle of the identical size and shape previously prepared. The bottle showed visual haze prior to being wrapped. Upon wrapping the bottle, substantial masking of the haze was observed. Other bottles were prepared to include various colorants. Of those, visual analysis showed that bottles including the colorant Tersar Yellow NE 1105131 available from Clariant provided substantial masking of haze at higher concentration (4%, final bottle has a orange coloration). When viewing its spectra in Fig. 8A, it can be seen that, unlike all of the other yellow colorants with spectra provided, the spectra of the Tersar Yellow colorant showed at least some absorption in the region from 500 to 550 nm and even out to about 600 nm. Thus, this colorant was suitable to mask at least some of the haze (or rather the MXD domain) of the bottle. In the same manner, bottles made with about 1 percent

Renol Blue NE 51050340 available from Clariant also showed some partial masking of the haze. In its spectra (Fig. 8C), it can be seen that this blue can cover a zone of the MXD-6 domains. In particular, the region starting from 500 nm can be covered. Not all of the region will be masked however, and there was still some visual haze noticeable in the bottle. The same behavior can be found in using the colorant Tersar blue 40642, also available from Clariant (Fig. 8C).

Please amend the paragraph appearing at page 32, lines 9 – 18 as follows:

With an aim towards understanding the prior experimental data obtained, some films with different amounts of Renol Red-4 colorant from ColorMatrix Corp. were prepared. The experimental data obtained showed an absorbance of this colorant in essentially the same region of the MXD6 domains radial dimension distribution of the 0.5 L bottle. Samples were made of cast films with thickness of about 200 microns on a Bausano double screw extruder with PET (Cobiter 80) resin adding different amount of Renol Red-4 at 0.05%, 0.1%, 0.2%, 0.25%, and 0.5% of weight. The blend was obtained dry blending the right amount of colorant in 2.5 kg of PET for each test in a steel container under essentially standard conditions of temperature, pressure and screw speed.

Please amend the paragraph appearing at page 34, line 29 – page 35, line 3 as follows:

The clamped boards with the sidewall in between them was suspended perpendicularly to the tabletop. A 6000 Watt halogen lamp attached to a variable power source was placed about 14 inches from the wall and about 7 inches from the top of the table. The light source was shielded from the wall by placing a container over the lamp. The container had a 45mm hole in the side located about 7 inches from the table top to allow the light to pass from the source and strike the cut out bottle sidewall.

Please amend Table III at page 39, lines 23 – 28.

TABLE III
X VALUES FOR COLORANTS USED IN PET/MXD6 BLENDS

	Renol Red 0.05%	Renol Red 0.1%	Green 0.1%	Green 0.25%	Green 0.5%	Tensar Tersar Blue 0.05%	Tensar Tersar Blue 0.1%
6% MXD	10.602	9.167	9.195	7.493	5.573		
8% MXD	9.899	8.167				9.953	7.272

Please amend the paragraph appearing at page 39, line 29 – page 40, line 15 as follows:

These bottles were then evaluated separately and subjectively to determine whether they reduced or eliminated visual haze. It was determined that neither of the 0.05% Renol Reds were sufficient to reduce haze, but that at 0.1% the Reds did start to adequately reduce visual haze. Likewise, the 0.05% Tensar Tersar Blue was not sufficient to reduce visual haze, but the 0.1% Tensar Tersar Blue was adequate to reduce the visual haze of the bottle. For the Greens, each green reduced the visual haze to some extent, with higher amount of colorant providing for a better visually acceptable product with reduced visual haze. This was true even though a notable amount of light was transmitted between about 480 nm and 540 nm. However, this green colorant absorbs substantially all, if not all, of the other wavelengths where domains are present, including a significant amount of light at about 584 nm, where a large number of domains existed. Thus, upon calculation of the X value for the colorant, it was determined to be well within the limits of X being less than 9.6. Experimentation has shown that the commencement of some masking of haze can be set at X=9.55. Thus, it should be evident that, provided the total amount of relative light not absorbed is less than 9.6, at least some of the haze visible to the naked eye of an observer will be masked.